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SUBJECT: DONG ENERGY'S ROLE IN DENMARK'S ENERGY SECURITY

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¶1. (SBU) SUMMARY: DONG Energy CEO Anders Eldrup recently briefed the Ambassador on Denmark's energy security and DONG Energy Group's activities. As a result of difficulties stemming from the 1973 OPEC oil embargo, Denmark set a national priority to end reliance on foreign energy. The Government achieved this by switching to coal-fired electricity generation, installing district heating to increase efficiency of these power plants, and enacting measures to stimulate development of alternative energy sources (notably wind and biomass). At the same time, Denmark discovered oil and natural gas reserves in its North Sea territory, which enabled it to supply all local energy demand from domestic sources. Today, Denmark's North Sea reserves are dwindling and Danes are demanding more renewable energy. Thus, DONG is investing heavily in renewable (mostly wind) energy, and seeking a solution to the electricity-storage problem by investing in the development of infrastructure to support electric cars and use the car batteries as storage capacity. DONG also has ambitious plans to reverse the ratio of its renewable/fossil-fuel energy mix from 15-85 today to 85-15 by 2040. Denmark is also diversifying its natural gas supply, but DONG has decided to source no more than 25% of its supply from GAZPROM through the Nord Stream pipeline. Eldrup indicated that he does not foresee DONG making the public stock offering that had been planned for January 2009 anytime soon. END SUMMARY.

¶2. (U) The Ambassador met with DONG Energy CEO Anders Eldrup on November 9, 2009, to receive a briefing on DONG's activities, the Danish experience with renewable energy, Denmark's 35-year path to energy self-sufficiency, and Eldrup's views on energy security. (NOTE: DONG Energy is a 73% Danish Government-owned, fully integrated energy holding company. It was formed in 2006 in a six-way merger that included the Danish Oil and Natural Gas Company. DONG Energy is now one of northern Europe's significant energy groups, with divisions engaged in procuring, producing, distributing, trading and selling energy (oil, natural gas, and electricity) and related products across the region. DONG Energy is a highly innovative company, particularly with regard to renewable energy. END NOTE)

¶3. (U) Eldrup began by providing a historical context for Denmark's current energy outlook. Prior to the 1973 OPEC oil embargo, Denmark was dependent on oil -- almost exclusively from Saudi Arabia -- for 95% of its energy needs. Having suffered greatly during the OPEC embargo, the Danish Government made energy security a national

priority. It pursued a three-pronged energy security strategy through the second half of the 1970s and the 1980s.

¶4. (U) First, Denmark switched electricity production almost entirely to coal-fired plants. The rationale behind this move was that the supply of coal available to Denmark was much more diverse than oil and, thus, less susceptible to interruption. At the time, there was no domestic debate about the emissions caused by coal -- debate centered almost exclusively on energy independence.

¶5. (U) Second, the government embarked on a major infrastructure project to install district heating throughout the country. District heating is a system where the heated water that is a by-product of electricity generation is distributed via underground pipelines to residences, businesses, and government buildings to provide radiant heat during winter months. This method can be used within a 50 kilometer radius of a power plant. Today, 60% of households in Denmark are heated by district heating, producing considerable energy savings. District heating does not require any additional energy production to heat the homes, and greatly increases the efficiency of coal-fired plants. The energy return (energy expended from burning coal compared to amount of electricity produced) without district heating in DONG's most efficient plants is approximately 47%; when coupled together with district heating, it is approximately 94%. The Government viewed this efficiency gain as essential to gaining energy independence.

¶6. (U) Third, realizing that Denmark possesses limited energy  
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resources, the Government sought to stimulate development in energy sources that are abundant locally. Wind and biomass were the two areas that received the most government support. For biomass, the government support took the form of a mandate that DONG purchase excess straw from farmers and burn it in coal power plants to decrease the amount of coal imports. For wind, the support took the form of heavy subsidies to help develop and deploy wind technology. Though the goal was to increase energy security, Eldrup credited these initiatives with kick-starting the Danish environmental industries that Denmark is so proud of today.

¶7. (U) At the same time as these measures were being implemented, Denmark discovered oil and gas reserves in its North Sea territorial waters. The finds were substantial enough that Denmark was eventually able to gain energy independence, though this required substantial investment in infrastructure. Initial economic analyses indicated that Denmark stood to profit more from selling the gas to Germany, which already possessed the necessary infrastructure. However, the Danish Government made a political decision to retain the oil and gas for domestic use to move toward the goal of supplying all Danish energy needs locally. Danish Oil and Natural Gas (DONG) was established during this period to be the distributor of oil and natural gas in Denmark.

¶8. (U) According to Eldrup, after having ended reliance on foreign oil and gas (Denmark is a net exporter of energy), Denmark today is demanding sustainable energy. In response, DONG Energy is moving toward a greener energy supply, while also maintaining the goal of Danish energy independence. The company is no longer constructing coal power plants and is closing some existing plants. The company has set an internal goal to go from an energy production mix of 15% renewable and 85% fossil fuel, as it has today, to a mix of 85% renewable and 15% fossil fuel by 2040. To do this, DONG

projects it will need to increase the share of wind-produced electricity consumed in Denmark from the current 20% to 40%. Thus, the company's investments in the near term are heavily weighted toward developing its wind capacity, including electricity storage. The backbone of the storage effort is a joint venture with U.S. firm Better Place to develop an electric car network in Denmark where not-in-use car batteries could store electricity generated by wind that could then be drawn on during peak demand periods. Eldrup returned often to the theme that much of Denmark's export-led growth comes from the early steps it took to move to renewable energy and the industry that spawned, and he sees electric cars as again presenting that possibility.

¶9. (SBU) Eldrup also touched on the future supply of natural gas for Denmark. DONG plans to move from the status quo of 100% Danish sourcing and to diversify its supply through four channels: 1) one quarter from Danish North Sea reserves (Eldrup said that production levels will drop in the medium-term, but this will be a gradual decline over the next 30 years), 2) one quarter from other North Sea suppliers (Norway and Great Britain), 3) one quarter from Russian gas company GAZPROM, primarily via the Nord Stream pipeline, and 4) one quarter from liquefied natural gas (LNG) shipped in via the LNG terminal in Rotterdam where DONG has become a partner. DONG may change that mix somewhat over the coming years, but has made a decision to not increase the share it purchases from GAZPROM to more than 25% of the total mix.

¶10. (SBU) Eldrup ended with a few comments on DONG's planned public stock offering that was scheduled for January 2009, which he said was stopped by a political decision just "a couple of hours from happening." The stock offering would have resulted in DONG going from 73% state ownership to just over 50%, not a complete privatization. Eldrup said that the planned public offering stemmed from the move in the 1990s to privatize state assets, which he now perceives is waning in Denmark. Though the delay was originally taken because of stock market volatility, he indicated that he does not believe the offering will take place in the foreseeable future. Eldrup, who is a former civil servant who made his career in the Finance Ministry, seemed to regard this as a positive development. He went to lengths to emphasize that the DONG Energy Board of Directors maintains an arm's-length distance between government political decisions and DONG business decisions. Nonetheless, he

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pointed out the key role played by government support for and subsidizing of new technology in the 1980s. Denmark gained a first mover advantage in many areas, particularly wind energy, at that time, but Eldrup sees the terrain as being different today because of the intense competition in energy technologies coming from firms in China.

¶11. (U) COMMENT: DONG Energy and its antecedents played a key role in creating and achieving the "Danish Model" of energy self-sufficiency. The firm seems more than willing to support the Danish Government's political priorities of shedding fossil fuels like coal-generated power in favor of sustainable greener energy sources in the future, provided the government ensures its bottom-line profitability through continued subsidies and mandates to go green. MCCULLEY